

Educational Content Analysis of The Most Popular Game in Android Application Based on Play Store Version

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Abstract—The advance of technology in the field of games with Android application based quickly develops, especially among the adolescence. The emergence of various games innovation with Android application based caused the increase of the users among the students, however, most of the game application liked and played by the students do not have educational value. Some games with the android application based have been launched with educational contents, however, unfortunately, their popularity is still low among the students in Indonesia. This makes the necessity of a new breakthrough to create the educating games in order to add insight and strengthen the traits and characters of users personality who most of them are students. The purpose of this study is to know the characteristics of the most popular game with the android application based in play store version as the basic of developing the model of games with the android application based which have educational content. The data of the study were obtained through Play Store with the most popular game searching, next from those data will be taxonomized in some game categories and continued with the educational content analysis of that game.

Keywords—educational game, android application, content analysis.

I. INTRODUCTION

Game industries are started to develop by not only the industrial development but also the high invention and circumstances of a console game to an interactive video game in some cellular hardware such as smartphone and. Technology advancement in the game industries of Android application stimulates the globalization of android video game that brings up addiction of the user [1][2]. That thing stimulates the spread of Android utilization as the tool to play games for every society realm, even the student's realm [3].

Charrieras & Ivanova [4] Android Game continues to transform with every invention that is developed by a reputable gaming company in the world with the expectation that the game will saleable in the market, but it is not astonishing when most of the game that is developed does not contain the education value. Game become addictive that bring up an addiction to the user. These phenomena happen to the kids that forget to study because the time is spent to play the game [5]. Therefore, some other reputable gaming company tries to launch some games with educational values in the game [6].

Even though some other reputable gaming companies launch the educational game, some game is considered as less *fun*, so the popularity is below the other popular game with good quality but less educating [7]. The educational game needs to be developed in order to support the educational process by its educational values. There will be no doubt that educational game will support the educational process [8].

An educational game is not only good but also becoming something important for the process of users learning at kids age which has the purpose to develop the attitude and cognition [9]. The educational game can train the users way in speaking the foreign language, out of their mother tongue language [10]. Beside that, educational games generally try to develop thinking ability, creativity and improve the ability to catching the information. In broad outline, the educational game can stimulate the kids to study and improve their attitude in daily lives [11].

The development of Android *game* gives some *impacts* to the user, from the addiction to disturbing daily activity. Of course, those things are supported by some factors that make the user addicted and cannot be apart with the smartphone. Therefore, it needs to be studied starting by doing the taxonomy to the most popular Android game based on the Google Play Store version.

The needs of identification to the popular game that is developed and student user interest can be used as the primary game creation that will produce the educational game and having the same good quality with other popular game so it will be accepted and interested in the users. Therefore, the purpose of this research is to find out the characteristic of the most popular Android-based game based on Google Play Store version as the basic development model of the educational game.

Throughout the history of human life, the game always exists and continue to be in demand by various circles in all ages [12]. The game is a form of art work in which the users in the game is called the player, he or she can determine all decisions to organize all they have through the items in the game in order to achieve one purpose or mission [13]. The game, basically is an interaction, the activity with achievement center, there is an active doer, there is the opponent too [14]. In general, there are two games. They are offline games, online games, and the games that are one

application mostly used and enjoyed by the users of electronic media [15]. Games always develop until it can be in the form of electronic or frequently called with online games have experienced rapid advance. A long time ago, game online was only on a small scale (Small local network) but now it starts to develop by using internet network and continue to develop until now [16]. Game online is addictive moreover for the kids until teenagers when then prople them to play in a long period of time. Too much playing games can cause negative impact such as health problems, head dizziness, until eyes problems [17].

Games have an educative element. Education in games is given through practice or learning with practice (learning by doing). The interactive trait in this game makes the game can be used as an educational facility that has better facility compared to conventional education tool [18]. Games can cause a positive impact like it becomes one of entertainment form as mind refreshing from the tiring condition because of full daily activities [19]. Beside that, games can convey various messages, mainly educational message through games. The users will be more interested and then the educational message is delivered easier [20]. Through interesting games, a kid cannot realize that indirectly he or she learns many things [21]. Based on the background above, the purpose of this paper is to show the characteristics of some popular games on play store?.

II. METHODOLOGY

The data of this article is done by a taxonomy of the most popular game in Play Store that is going to be analysed by the educational content of those games. Then, it is going to be analysed deeply about the game criteria that is considered to be popular for the basic creation of an educational game model that is interesting and accepted by the users.

III. RESULT AND DISCUSSION

A. Literature Review

In the previous research, there are many researchers conducted research about educational games. Wu [22] conducted research about the development of an educational game that involved 15 Senior High School students in Taiwan who had computational skill through game design workshop. This research generated three findings explored from the result of observation data analysis, questionnaires, and data obtained from the students. Those findings showed that the students understood the games as the system and how the components in that system worked together in a meaningful relationship in a game design; the students had good skill in communication with other game designers by using the language related to game design; improving the comprehension and implication of computational thinking skill through game design activity.

Bawa [23] conducted the research about the usage of Massively Multiplayer Online Games or MMOG which attracted the attention of the educational world because of the increased availability of MMOG game, the consumer bais that continued to develop, and the benefits obtained from MMOG. MMOG that had been known to have a very high capacity to make the users involved during the sustainable period, gives potency to improve the experience

and performance. However, most of the studies available about MMOG did not discuss the relationship between the usage of MMOG and the result of the performance in Higher Education. By using 32 students as the samples, this mix-methods research investigated and supported how to integrate MMOG in the part of English Language Composition to help to improve the performance and students involvement, the implementation and the research implication in the future.

Beside that, the previous research about educational games had been done by Yong-Ming Huang [24] concerning chromatics that had been the important subject in design education because the color can make a significant difference in the meaning and the value of the object being designed. However, only some research that tried to help the students in learning chromatics, let alone to investigate their point of views about learning with mobile games based on this subject. To overcome this weakness, firstly we developed the color game to help the students learning chromatics through color mixing. Then by using the proper and emotional factors, we designed a model of research to investigate students' decision taking about games. After analyzing the feedback from togal 205 students, this research showed that (1) the attractive point felt is the emotional factor. It becomes the most significant one behind the subject interest to play games; (2) the usage felt is the proper factor that indirectly influences the subject's intention; (3) the peasant felt, as another emotional factor, it gives significant influence and direct effect towards the benefits felt by the subject. This finding showed that the emotional factor did not only played an important role in students' intention to play color games but also prominent in the proper responses towards games.

B. Taxonomy of the Most Popular Game Based on Google Play Store Version

Google Play Store became the medium for the researcher in identifying the most popular Android game that is interested in the most society realm. These are the most popular Android games based on Play Store version (accessed on 7th of July 2018), Mobile Legends, Lineage2 Revolution, Lords Mobile, Garena Free Fire. Some of these Andoid games are found in the popular category, in the best-download subcategory. It means that the game become best-download with the most download in the world during July 2018 compared to other games.

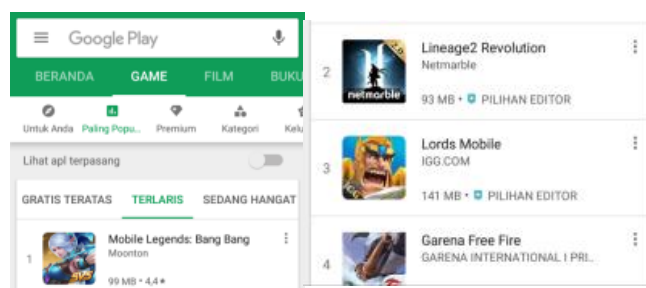


Fig. 1. Best-download games based on Google Play Store version

C. Mobile Legends: Bang Bang

This game becomes the most favourite and best-download based on Google Play Store version in July 2018

with the sum of 100 million times download with ratings of 4,4. This game is launched by Moonton with the genre of online multiplayer battle.

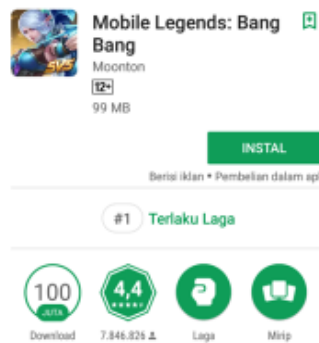


Fig. 2. The display of Mobile Legends: Bang Bang in Play Store application

This game is included in the category of online battle game. This Game has very good graphic quality for a *smartphone*. The very interesting graphic display makes the game become realistic. This game has some excellence so it becomes so interesting and loved by most users almost in the global world. The educative element appears by the implication of genre MMO-RPG (Massively Multiplayer Online - Role Playing Game) so the player will feel or in the position of the *main character* of the game. By those things, the game that provides battle atmosphere can develop the sensory of the player to the enemy attacks. Character or figure plot in Mobile Legends has quotes that are inspiring and giving motivation, such as the phrase of one of the characters in Mobile Legends that said “*Tidak ada yang abadi, maka kita dapat merubah masa depan*”. This Mobile Legends game has a multiplayer game feature in the network or online multiplayer, so the user can feel the playing atmosphere that is very exciting because it can be played with other online users.

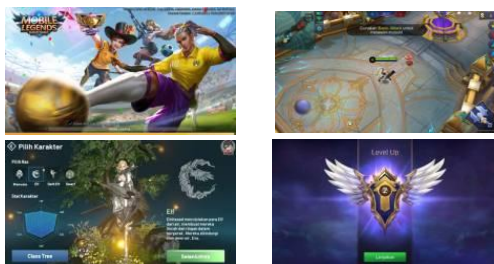


Fig. 3. Display of Mobile Legends: Bang Bang Gameplay

D. Lineage 2 Revolution



Fig. 4. Display of lineage 2 revolution Gameplay

Lineage is one of the newcomer games that is already included in the trending world game. Lineage included in the category of RPG or *Role-Playing Game*. A game with genre MMO-RPG or *Massively Multiplayer Online Role-Playing Game* where the game is emphasizing to a multiplayer game that is played by online. Design graphic in Lineage 2 Revolution is packed with 3D animation that is supported with sharp graphic. Design and artistic touch of the animation entitled *open world* makes this game more challenging, amazing, and interesting. Multiplayer such as Lineage 2 Revolution encourages the player to create good communication so it will synergize in the team or *teamwork*. This game has almost the same advantages with Mobile Legends: Bang Bang so it becomes one of the most popular game in Indonesia even the world. The advantage can be found in the online multiplayer feature so it can reach many people out there, also can make a new friend through the online network in the game

E. Lords Mobile



Fig. 5. Display of Lords Mobile Gameplay

Lords Mobile is the game that has the genre of MMO-RTS or *Massively Multiplayer Online Real-Time Strategy*. In the short phrase, this game is included in the category of war and strategy. This game has the uniqueness of the *main character* that displayed in 3D animation and interesting. This game helps to develop good intelligence because the player is given a short time to plan the strategy and the player is expected to know when they should defend or attack. MMO-RTS become the advantage of this game because the player should plan the strategy to win the battle. Other than that, the Back Ground Music is composed by a professional orchestra that makes this game become more fun.

F. Garena Free Fire



Fig. 6. Display of Garena Free Fire Gameplay

This game is considered as a shooting game and can be included in the action category. Garena Free Fire is the

game that has the theme of *ultimate survival shooter game* which is provided in the *mobile*. Design graphic of this game is good enough for an Android game. Educative content that included survival in this game teaches motivation and struggle of a person to survive in some environment and enemy attack. This game becomes popular because it is interesting. User as the player is forced to survive. The user will be placed in a remote island and must defeat 49 other players to be the one and only survivor. A game with the tensed challenge will encourage the player to feel the tense more and more when playing this game.

IV. CONCLUSION

An educational game, in general, is designed to develop creative thinking and increase the intelligence of the kid in processing information. Unconsciously, the game around the kids can be the media to educate and helpful for daily life. Most of the kids that played Android game are students. The students are easy to access the game through Google Play Store application. The most popular games based on the Google Play Store version are Mobile Legends, Lineage 2 Revolution, Lords Mobile, and Garena Free Fire. Based on those games the taxonomy is done for further critical study as the main base in the creation of the educational game.

In the outline, the category consists of an action game, battle game, and strategy game. Graphic design of the four games is already developed with 3D animation so it looks more realistic and interesting. The content of the games has education values that give encouragement, motivation, and struggle. Unfortunately, game development is not yet suitable for Indonesian culture. The animated characters in the game are still not relevant to the national culture. Indonesian cultures that embedded local wisdom values in dressing and speech should become guidance for the students while playing the game. Culture element needs to be integrated into the part of the educational game like adding animated character which is unique but dressed well and more interesting. Other than that, good education game is the game that can give moral value to the user without ignoring motivation and struggle in the game. The emphasis of culture element as education media becomes important to develop student's *self-control* in playing the game so it has good implication in daily life.

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